TOHTSO 2ETSS860

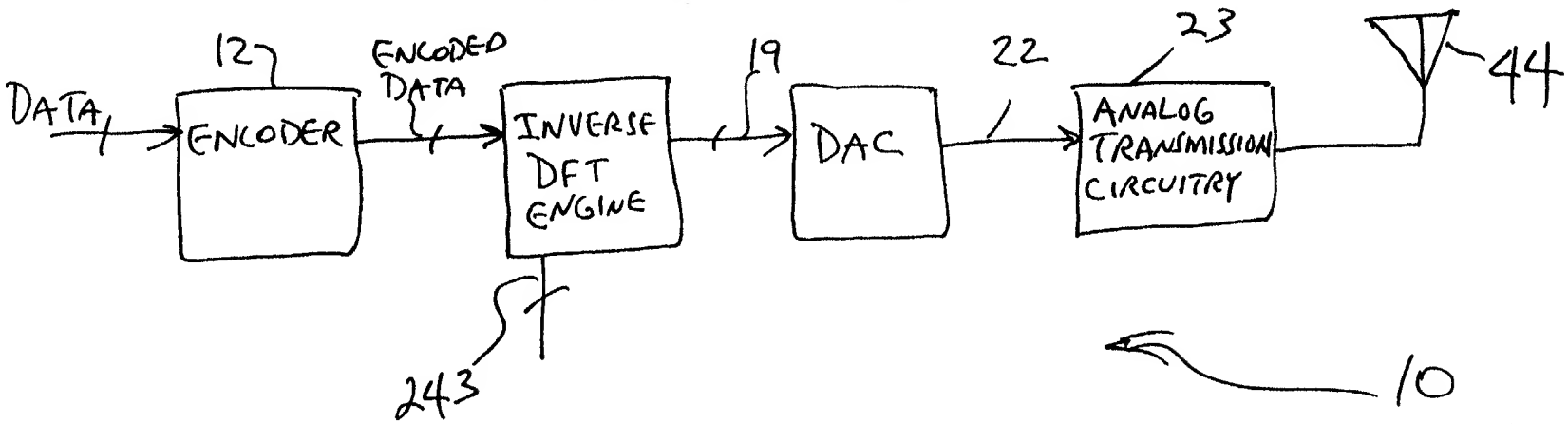


FIG. 1

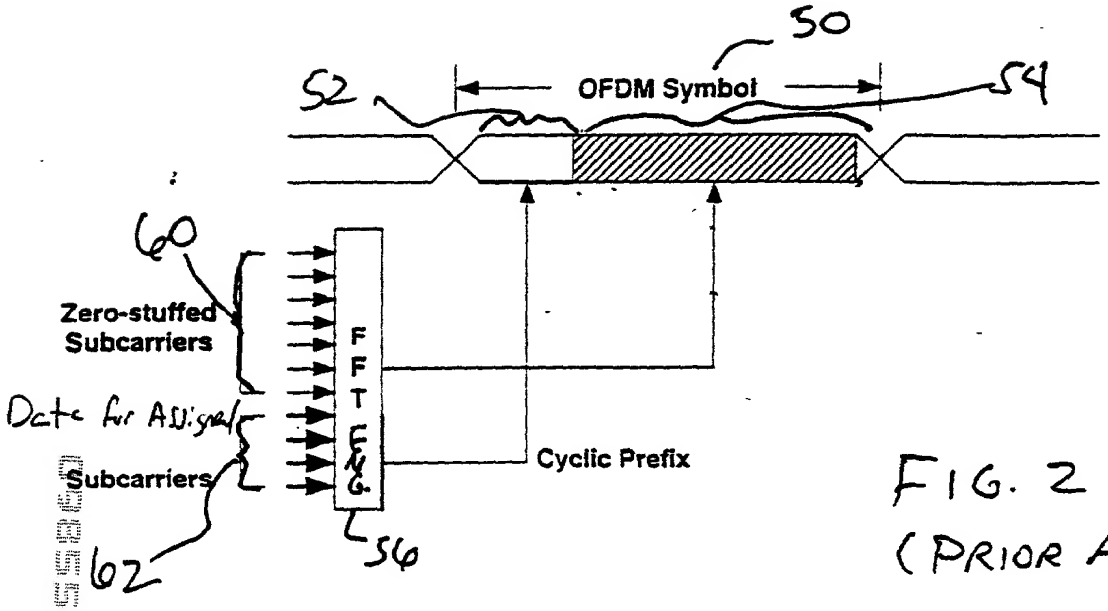


FIG. 2
(PRIOR ART)

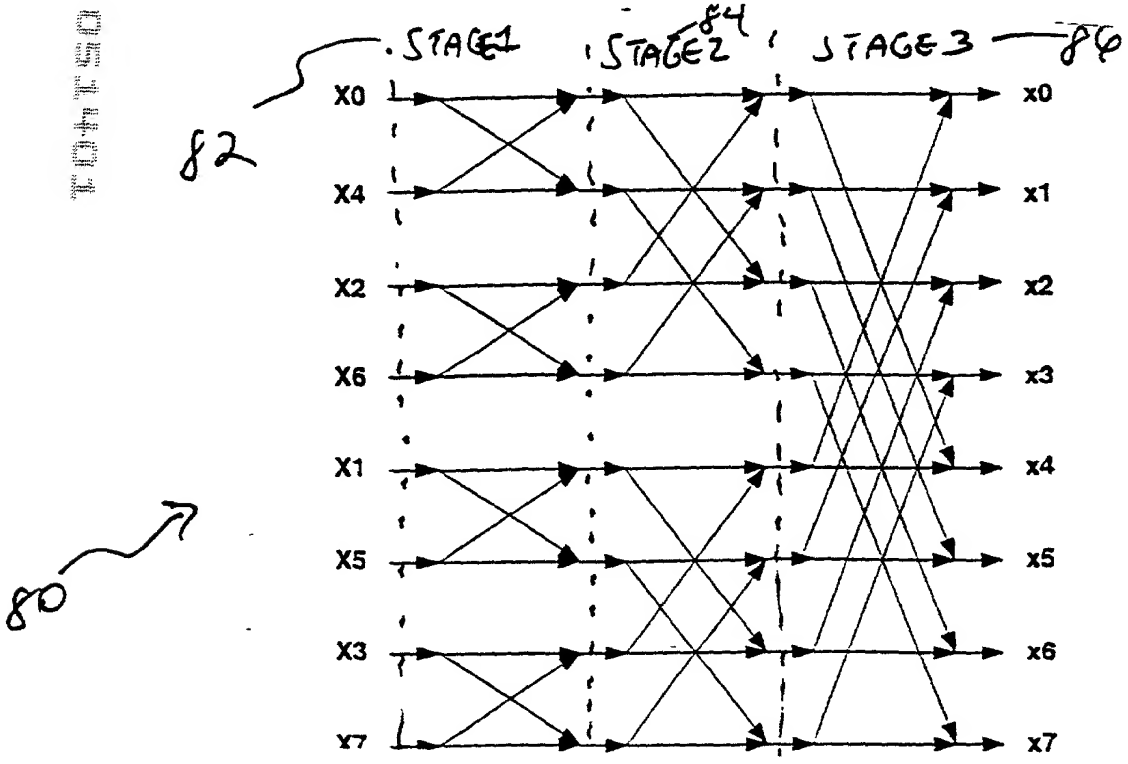


FIG. 3
(PRIOR ART)

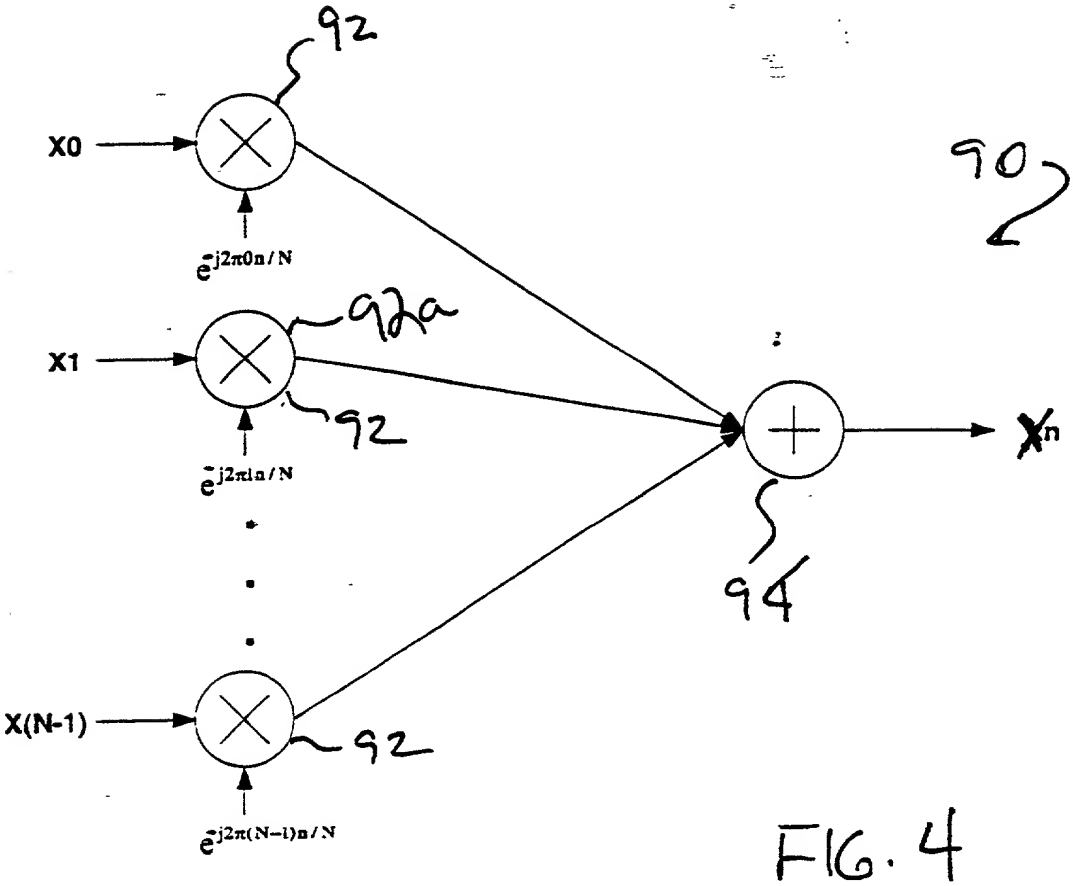


FIG. 4

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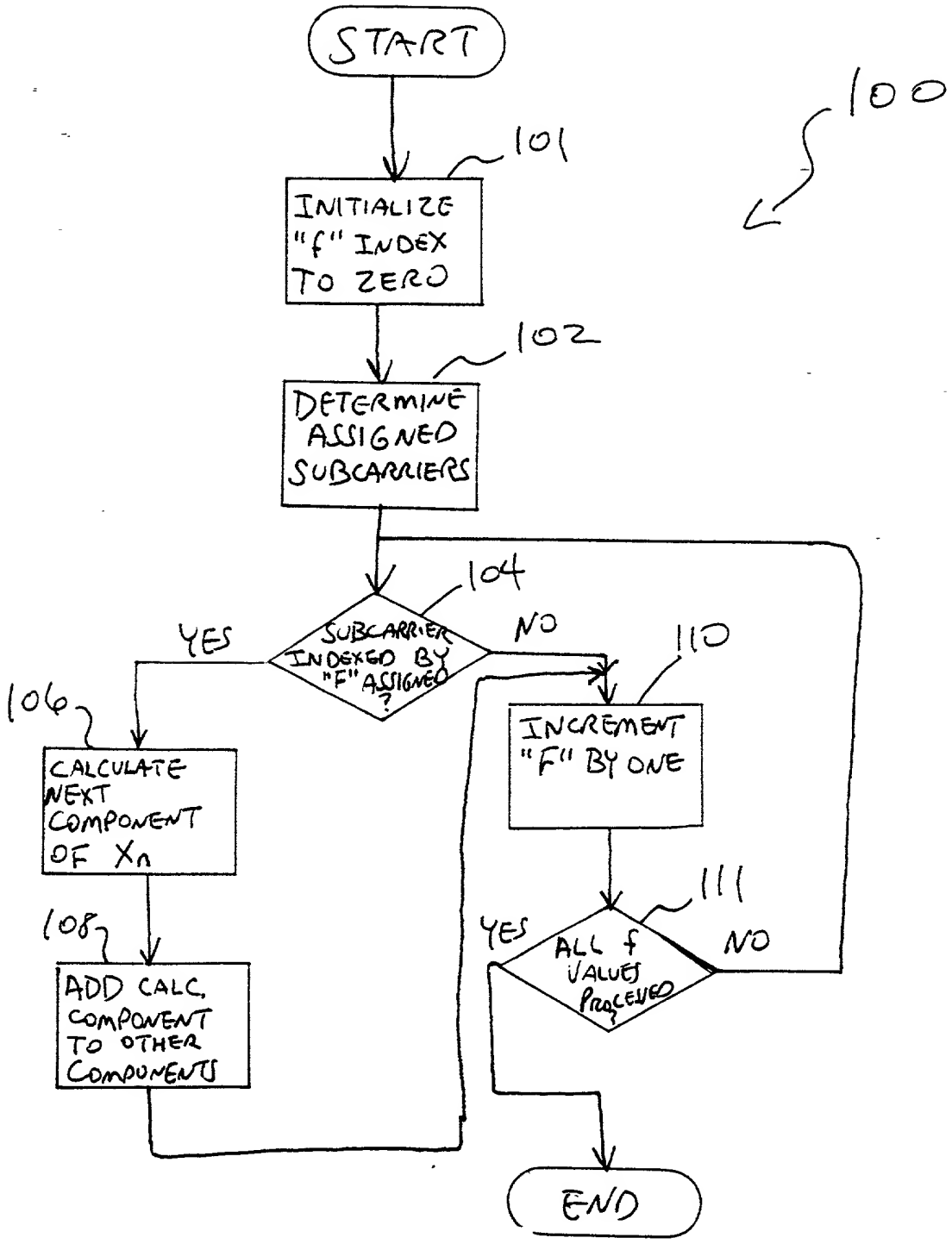
START
100
101
INITIALIZE "f" INDEX TO ZERO
102
DETERMINE ASSIGNED SUBCARRIERS
104
SUBCARRIER INDEXED BY "F" ASSIGNED ?
YES
NO
106
CALCULATE NEXT COMPONENT OF Xn
108
ADD CALC. COMPONENT TO OTHER COMPONENTS
110
INCREMENT "F" BY ONE
111
ALL f VALUES PROCESSED
YES
NO
END

FIG. 5

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112

113

114

$10g2(N)$

116

| Total No. of Subcarriers (N) | Processing required for FFT Nlog2(N) | Equivalent Subcarriers using DFT |
|---|---|---|
| 16 | 64 | 4 |
| 32 | 160 | 5 |
| 64 | 384 | 6 |
| 128 | 896 | 7 |
| 256 | 2048 | 8 |
| 512 | 4608 | 9 |
| 1024 | 10240 | 10 |
| 2048 | 22530 | 11 |
| 4096 | 49150 | 12 |

FIG. 6

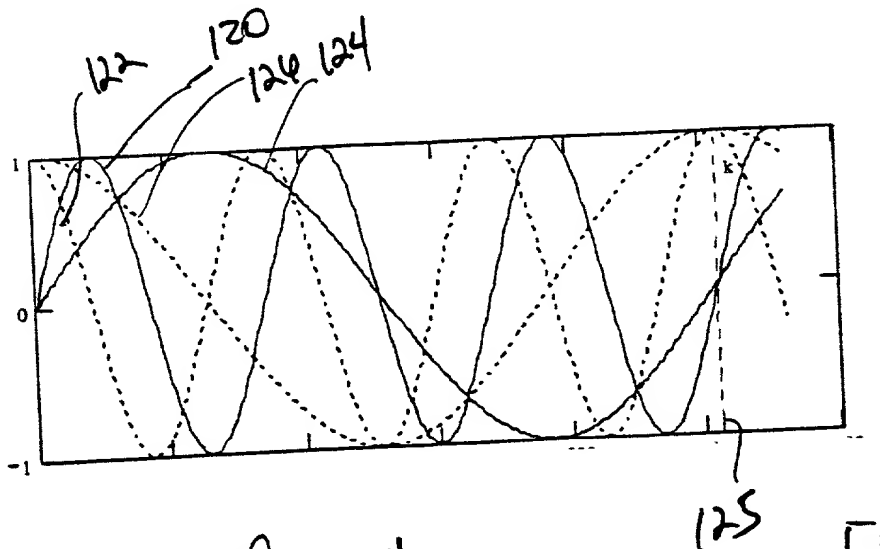


FIG. 7

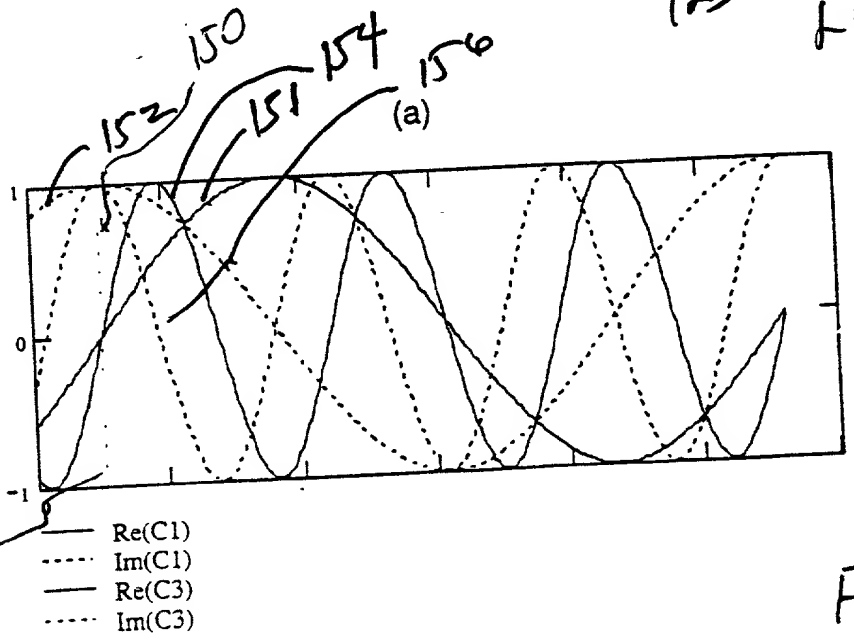


FIG. 9

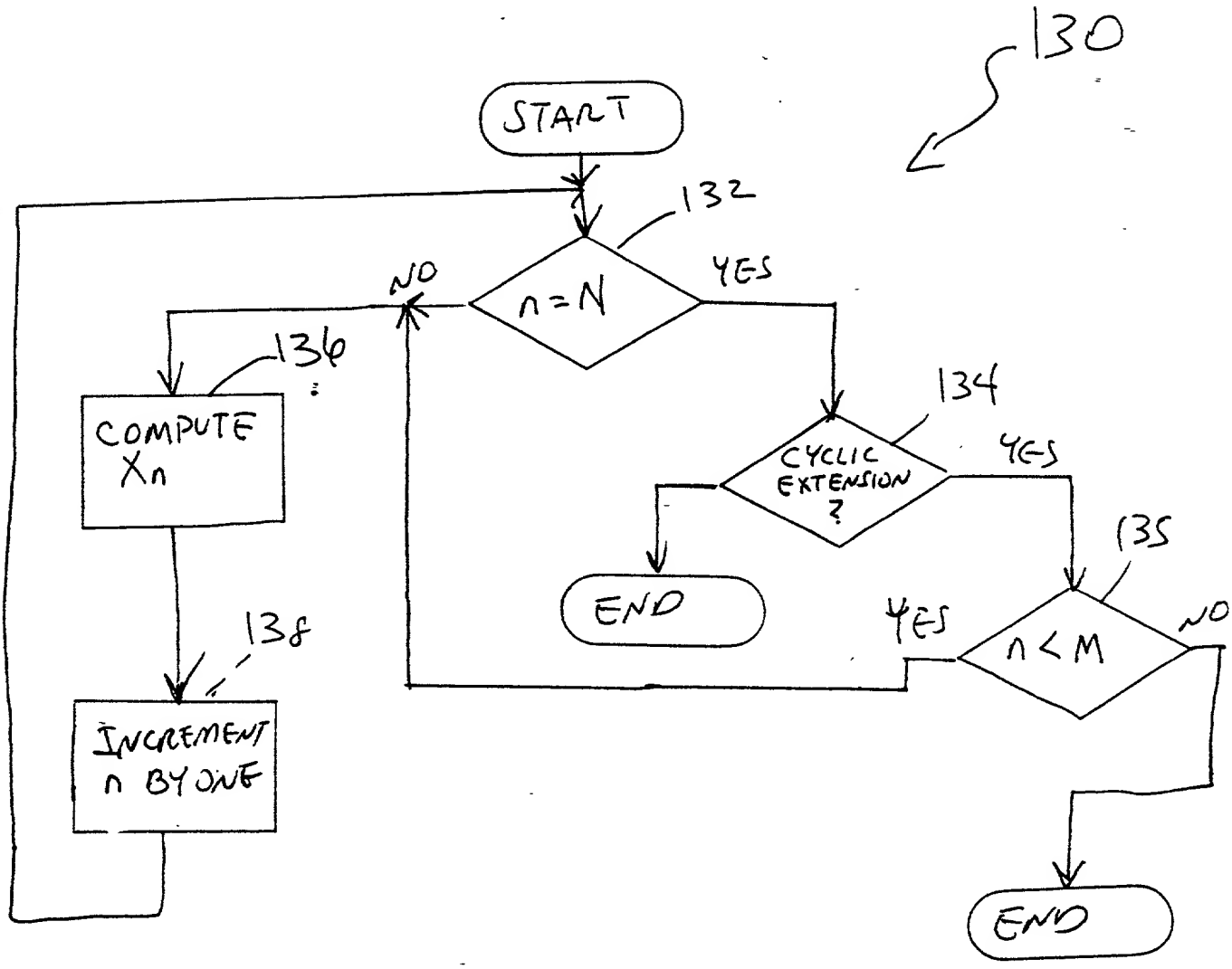
130
START
132
n=N
NO
YES
136
COMPUTE
Xn
134
CYCLIC
EXTENSION
?
YES
END
135
YES
n<M
NO
138
INCREMENT
n BY ONE
END

FIG. 8

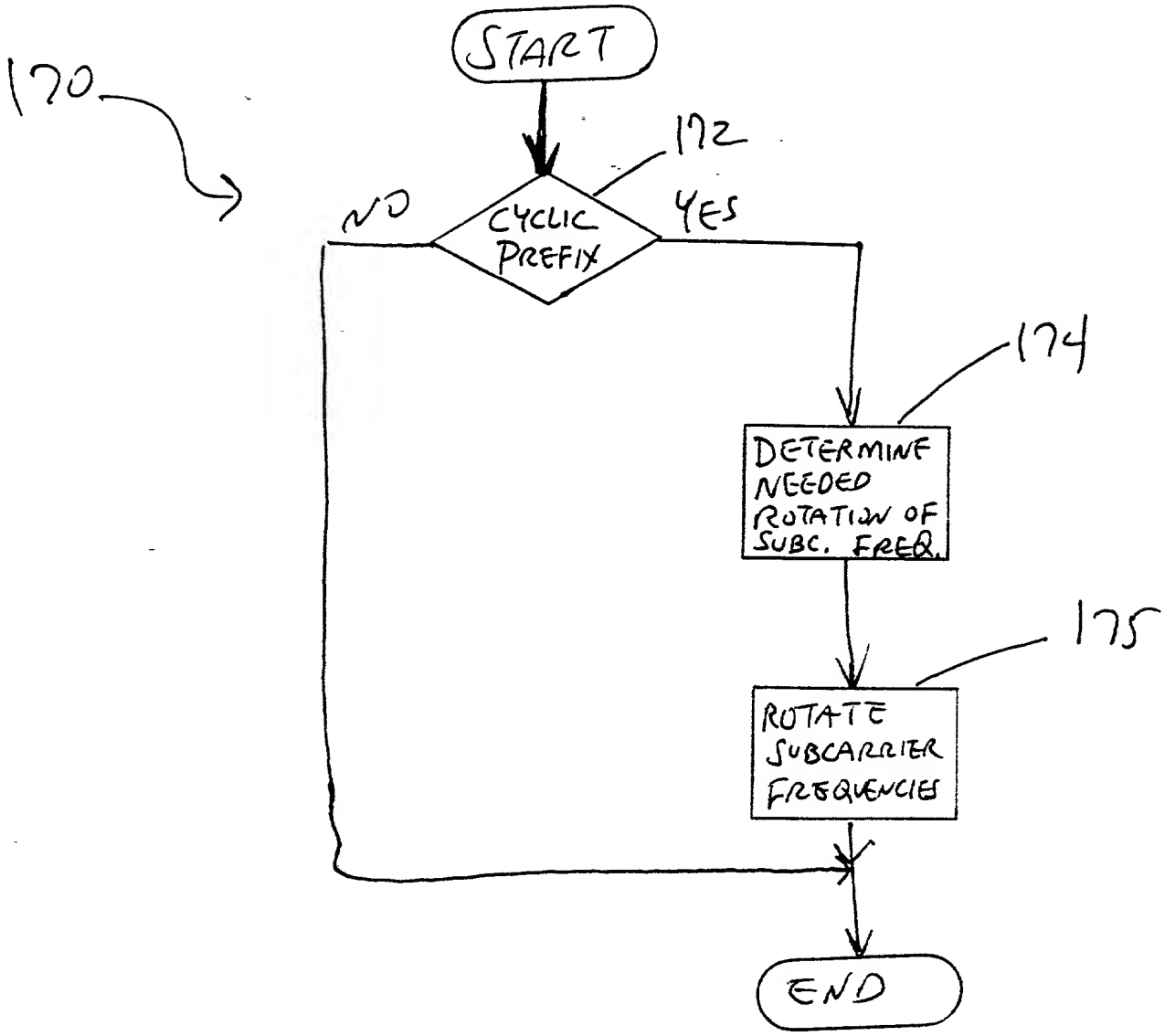
170
START
172
CYCLIC PREFIX
NO
YES
174
DETERMINE NEEDED ROTATION OF SUBC. FREQ.
175
ROTATE SUBCARRIER FREQUENCIES
END

FIG. 10

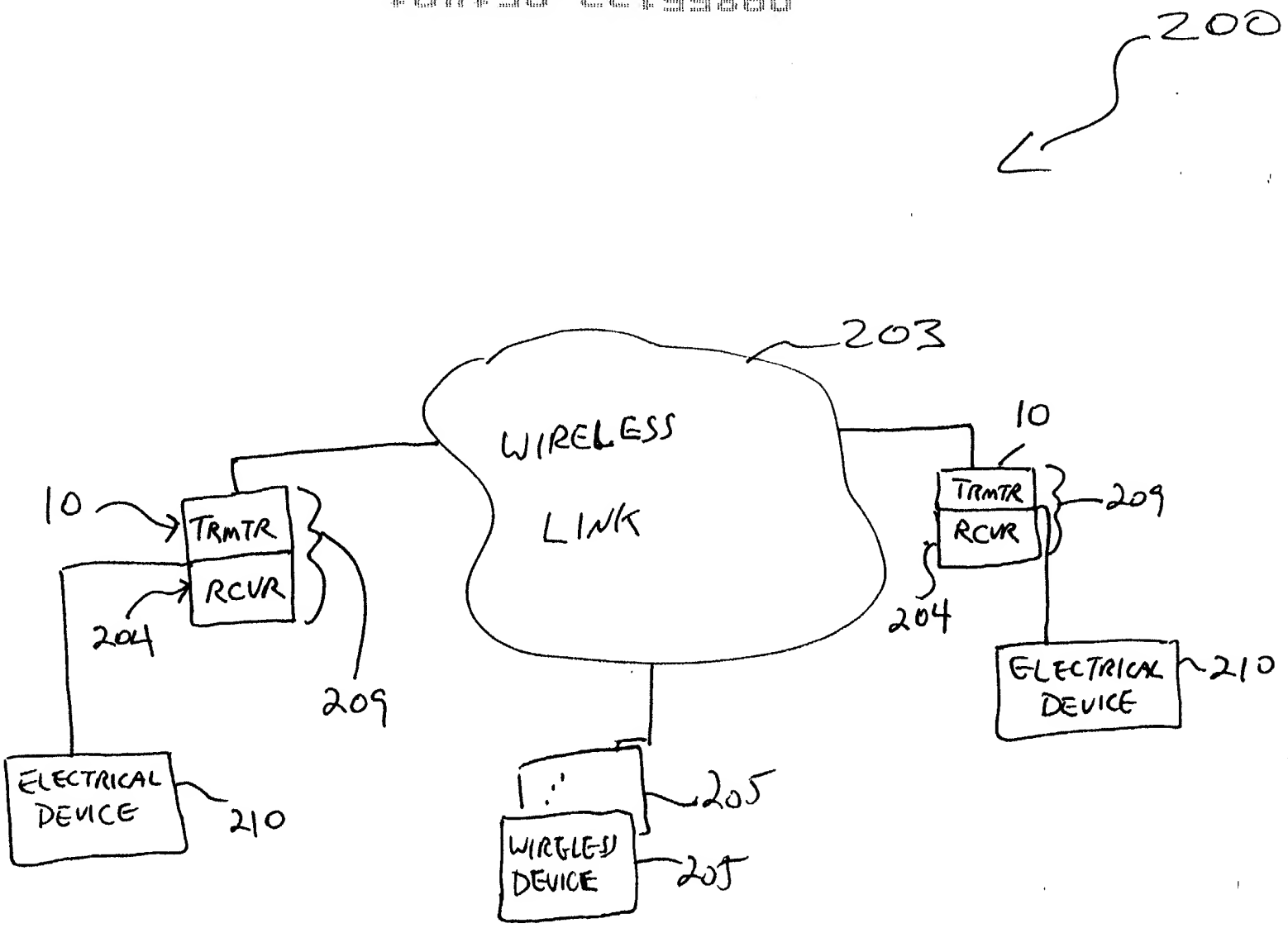
200
203
WIRELESS
LINK
10
TRMTR
RCVR
209
204
ELECTRICAL
DEVICE
210
10
TRMTR
RCVR
209
204
ELECTRICAL
DEVICE
210
205
WIRELESS
DEVICE
205

FIG. 11